Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claim 1 (currently amended). A ~~data input~~ handheld optical mouse device for tracking relative movement between said handheld optical mouse device and a tracking surface, comprising:

an impedance sensor arranged with respect to a tracking surface, said impedance sensor having a measurement zone within which said impedance sensor measures an electrical capacitance ; and

a controller responsive to the measured capacitance of said impedance sensor for determining a distance of spatial separation between the ~~data input~~ handheld optical mouse device and the tracking surface relative to one another as a function of the measured capacitance, the handheld optical mouse being removable from the tracking surface, said controller initiating a non-tracking mode in which said controller suspends tracking of relative movement between said ~~data input~~ handheld optical mouse device and said tracking surface when said ~~data input~~ handheld optical mouse device is removed from the tracking surface and is spatially separated from said tracking surface by at least a lift-off detection distance, said controller further being responsive to the measured capacitance of said impedance sensor for determining a direction of relative movement between said ~~data input~~ handheld optical mouse device and said tracking surface as a function of the measured capacitance.

Claim 2 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said ~~data input~~ handheld optical mouse device is in a tracking mode when determining whether said ~~data input~~ handheld optical mouse device is spatially separated from said tracking surface by at least the lift-off detection distance.

Claim 3 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 2 wherein said impedance sensor is shaped and sized to face said tracking surface when said ~~data input~~ handheld optical mouse device is in said tracking mode.

Claim 4 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 further comprising a housing shaped and sized to engage said tracking surface, said impedance sensor and controller being at least partially enclosed within said housing.

Claim 5 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 4 wherein said impedance sensor is shaped and sized to mount on a surface of the housing and shaped and sized to engage said tracking surface.

Claims 6-7 (canceled).

Claim 8 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said impedance sensor comprises at least six electrodes.

Claim 9 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said impedance sensor comprises a capacitance sensor having at least two electrodes for measuring the electrical capacitance between said at least two electrodes and wherein said controller is configured for determining the distance of spatial separation between the ~~data input~~ handheld optical mouse device and the tracking surface relative to one another as a function of the measured capacitance.

Claim 10 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 9 wherein said at least two electrodes are arranged adjacent one another, said at least two electrodes being substantially equidistant from one another such that the at least two electrodes maintain a minimum clearance with respect to one another.

Claim 11 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 10 wherein a first electrode comprises a substantially circular conductor and a second electrode comprises a substantially annular conductor surrounding said substantially circular conductor, said first and second electrodes maintaining a minimum clearance between one another between an outer perimeter of the substantially circular conductor and an inner circumference of the substantially annular conductor.

Claim 12 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 10 wherein first and second electrodes comprise substantially comb-shaped conductors having digits extending at regular intervals from an edge of each electrode, said digits of said first electrode being interdigitized with the digits of said second electrode.

Claim 13 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 9 wherein said capacitance sensor creates a fringing field capable of determining the distance of spatial separation between the tracking surface and the ~~data input~~ handheld optical mouse device relative to one another as a function of measured changes in a dielectric constant of the tracking surface and a dielectric constant of ambient air between the ~~data input~~ handheld optical mouse device and the tracking surface when separated from one another.

Claim 14 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 9 further comprising a resistance-capacitance (RC) resonance circuit shaped and sized to connect to the capacitance sensor.

Claim 15 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 9 wherein said at least two electrodes comprise a first electrode shaped and sized to mount on said ~~data input~~ handheld optical mouse device and a second electrode comprising said tracking surface.

Claims 16-20 (canceled).

Claim 21 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said impedance sensor further comprises an inductance sensor and said tracking surface is comprised of a magnetic material, and wherein said controller is tunable to detect relative movement between the ~~data input~~ handheld optical mouse device and the tracking surface as a function of an inductance measured by the inductance sensor.

Claim 22 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 21 further comprising an inductance-capacitance (LC) resonance circuit shaped and sized to connect to said inductance sensor to interact with said magnetic material of said tracking surface.

Claim 23 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said tracking surface is human skin.

Claim 24 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said lift-off detection distance is no more than about 4 millimeters (0.16 inch).

Claim 25 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 24 wherein said lift-off detection distance is no more than about 4 millimeters (0.16 inch) and at least about 0.5 millimeter (0.02 inch).

Claim 26 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 25 wherein said lift-off detection distance is no more than about 3 millimeters (0.12 inch) and at least about 0.5 millimeter (0.02 inch).

Claim 27-28 (canceled).

Claim 29 (currently amended). A ~~data input~~ handheld optical mouse device comprising:

a resistance sensor arranged with respect to a tracking surface, said resistance sensor having a measurement zone within which said resistance sensor measures an electrical resistance; and

a controller responsive to the measured resistance of said resistance sensor for:

determining spatial separation between the tracking surface and the ~~data input~~ handheld optical mouse, said handheld device being removable from the tracking surface, said controller initiating a non-tracking mode in which said controller suspends tracking of relative movement between said ~~data input~~ handheld optical mouse device and said tracking surface when said ~~data input~~ handheld optical mouse device is removed from the

tracking surface and is spatially separated from said tracking surface by at least a lift-off detection distance; and

determining a speed of relative movement between the ~~data input~~ handheld optical mouse device and the tracking surface.

Claim 30 (canceled).

Claim 31 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 29 wherein said resistance sensor further comprises at least two electrodes, said ~~data input~~ handheld optical mouse device adapted to energize said at least two electrodes with direct current and measure the resistance between said at least two electrodes to determine if said ~~data input~~ handheld optical mouse device is spatially separated from said tracking surface by at least the lift-off detection distance.

Claim 32 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 29 wherein said resistance sensor further comprises at least two electrodes, said ~~data input~~ handheld optical mouse device adapted to energize said at least two electrodes with alternating current and measure the resistance between said at least two electrodes to determine if said ~~data input~~ handheld optical mouse device is spatially separated from said tracking surface by at least the lift-off detection distance.

Claim 33-36 (canceled).

Claim 37 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 1 wherein said impedance sensor comprises at least two electrodes.

Claim 38 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 37 wherein said impedance sensor comprises at least four electrodes.

Claim 39 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 29 further comprising a housing shaped and sized to engage the tracking surface, said resistance sensor being shaped and sized to mount on an outer surface of said housing.

Claim 40 (currently amended). The ~~data input~~ handheld optical mouse device as set forth in claim 39 wherein said housing is formed from material having a higher resistance than the tracking surface.